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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/624,002	07/21/2003	Hiddenobu Mikami	1007-020	5624
47888	7590	06/05/2007		
HEDMAN & COSTIGAN P.C. 1185 AVENUE OF THE AMERICAS NEW YORK, NY 10036			EXAMINER GOLOBOY, JAMES C	
			ART UNIT	PAPER NUMBER
			1714	
			MAIL DATE	DELIVERY MODE
			06/05/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/624,002	<b>Applicant(s)</b> MIKAMI ET AL.	
	<b>Examiner</b> James Goloboy	<b>Art Unit</b> 1714	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 26 March 2007.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters; prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1, 3, 7-14 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1, 3 and 7-14 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

**DETAILED ACTION**

1. Please note the new examiner of record.
2. The outstanding grounds of rejection have been withdrawn. New grounds of rejection have been set forth below.

***Claim Rejections - 35 USC § 112***

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claim 14 is rejected under 35 U.S.C. 112, first paragraph, as based on a disclosure which is not enabling. A component critical or essential to the practice of the invention, but not included in the claim(s) is not enabled by the disclosure. See *In re Mayhew*, 527 F.2d 1229, 188 USPQ 356 (CCPA 1976). On page 5 lines 4-7 of the specification, an antioxidant is disclosed as a required component of the additive, but it is not recited in claim 14. Further evidence for the essential nature of the antioxidant is found in the examples on page 22, where all the compositions contain an antioxidant.

***Claim Rejections - 35 USC § 103***

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5. Claims 1, 3, and 7-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yokouchi (U.S. Pat. No. 5,707,944) in view of Birke (U.S. Pat. No. 3,867,399).

In column 2 lines 18-41, Yokouchi discloses a grease composition for bearings comprising a base oil and 10 to 35% by weight of a diurea compound. In column 3 lines 39 Yokouchi teaches that the base oil can contain a ether oil, and in column 3 lines 38-43 teaches that alkyldiphenyl ether oil is a preferred ether oil. In column 1 lines 44-48 Yokouchi further discloses that the base oil preferably has a viscosity from 70 to 180 mm<sup>2</sup>/sec at 40 degrees C, overlapping the range recited in claim 1. The base oil of Yokouchi therefore meets the structural limitations of claim 1. In column 3 lines 34-36 Yokouchi discloses that the base oil can also contain a synthetic hydrocarbon oil, as in claim 3, in addition to the ether oil. In column 4 lines 1-12 Yokouchi teaches that the diurea has the same structure of the diurea of claim 1 when R<sub>1</sub> and R<sub>3</sub> (corresponding to R<sub>2</sub> and R<sub>4</sub> of claim 1) are aromatic groups. Yokouchi teaches that the proportion of aromatic R<sub>1</sub> and R<sub>3</sub> groups is between 50 to 100% of the total groups. Assuming that the aromatic groups are distributed randomly, between 25% and 100% of the diurea compounds will have the same structure as the diurea of claim 1, leading to an overall concentration of between 2.5% and 35% by weight for the diurea with the same structure of claim 1, strongly overlapping the concentration range recited in the claim.

Attention is particularly drawn to Example 7 of Yokouchi (column 7, table 2), which discloses a composition where the base oil has a viscosity of 65 mm<sup>2</sup>/sec, within the range recited in claim 1, and containing approximately 31% by weight of alkyldiphenyl ether oil, meeting the limitations of claim 1. The diurea thickener is present

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in a concentration of 27% by weight, and 80% of the  $R_1$  and  $R_3$  groups are aromatic.

The concentration of the diurea with aromatic  $R_1$  and  $R_3$  groups therefore falls within the range recited in claim 1. Additionally, the  $R_2$  group and aromatic  $R_1$  and  $R_3$  groups of the diurea of Example 7 meet the limitations of claim 7. Yokouchi's Example 4 is similar.

In column 5 lines 2-3 Yokouchi teaches that the composition can comprise amine, phenol, or sulfur-containing antioxidant, as in claims 11-12. In column 5 lines 39-43, Yokouchi discloses that antioxidant and rust preventive are added to the grease in a total concentration of 2.5% by weight. While the amount of antioxidant is not specifically disclosed, the range of possible concentrations of antioxidant strongly overlaps the ranges recited in claims 11-12.

From column 4 line 66 through column 5 line 13, Yokouchi teaches that the grease can contain additional known additives, but does not specifically disclose a metal salt of a dibasic acid.

Birke discloses a grease that comprises a diurea thickener and is used to lubricate bearings. From column 4 line 67 through column 5 line 11, Birke discloses additional additives that are useful in such greases, including the anticorrosion agent disodium sebacate. The use of this additive as a corrosion inhibitor in the grease of Yokouchi meets the limitations of claims 1 and 8-10.

While Yokouchi teaches that the composition can comprise additional additives, this does not prevent it from meeting the limitations of claim 14, as the additive of claim 14 is only required to contain a metal salt of a dibasic acid as an "essential component" of the additive. It does not exclude the presence of further additives, such as those

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taught by Yokouchi. The composition of Yokouchi can also include thickeners where one or both of the  $R_1$  and  $R_3$  groups are not aromatic, which are not recited in claim 14, but if an applicant contends that additional steps or materials in the prior art are excluded by the recitation of "consisting essentially of," applicant has the burden of showing that the introduction of additional steps or components would materially change the characteristics of applicant's invention. *In re De Lajarte*, 337 F.2d 870, 143 USPQ 256 (CCPA 1964). See 2111.03. Also, Yokouchi does teach that thickeners can be used where 100% of the  $R_1$  and  $R_3$  groups are aromatic.

It would have been obvious to one of ordinary skill in the art to add the disodium sebacate of Birke to the grease of Yokouchi, in order to inhibit corrosion, as taught by Birke.

### ***Response to Arguments***

The outstanding rejections set forth in the office actions mailed 4/17/06 and 9/25/06 have been withdrawn, as noted in paragraph 2 above. JP-200273 teaches in paragraph 20 that there is a synergistic effect between a bentonite thickener and a metal salt of a dibasic acid. Therefore, there would have been no motivation to replace the bentonite thickener with a diurea thickener, which is not taught by JP-200273 or Naka to produce a synergistic effect with the metal salt of a dibasic acid and would therefore be expected by one of ordinary skill to produce inferior results.

Applicant's arguments regarding the combination of JP-200273 and Naka are otherwise moot in view of the new grounds of rejection. Applicant further argues that greases containing the metal salt of a dibasic acid provide superior results in comparison with greases containing other conventional rust inhibitors, and has provided a rule 132 declaration by Mikami dated 4/16/07 containing additional data. However, the comparative data in the specification and the declaration is incommensurate with the scope of the claims. All of the compositions displaying alleged superior results contain 1% by weight of sodium sebacate, while claim 1 allows for any metal salt of a dibasic acid, and a much wider concentration range. Even the narrower claim 10, while limiting the metal salt to sodium sebacate, does not recite a narrower concentration. Additionally, all the compositions of Examples 1-8 on page 22 of the specification have a base oil comprising at least 80% by weight of alkyldiphenyl ether oil; while the claims recite a base oil comprising a much broader range of at least 20% by weight of alkyldiphenyl ether oil.

### ***Conclusion***

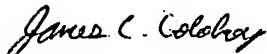
Any inquiry concerning this communication or earlier communications from the examiner should be directed to James Goloboy whose telephone number is 571-272-2476. The examiner can normally be reached on M-F 8-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vasu Jagannathan can be reached on 571-272-1119. The fax phone

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number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

  
JCG

/Vasu Jagannathan/  
Supervisory Patent Examiner  
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